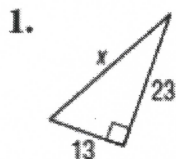


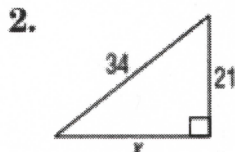
Geometry Unit 7 Worksheet #5 - Review for Quiz 7.1 - 7.4

TARGET A - Pythagorean Theorem

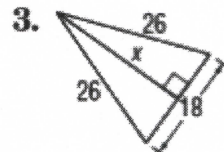
Find x . Round answers to the nearest tenth if needed,



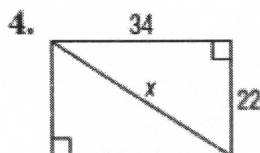
$$\begin{aligned} 13^2 + 23^2 &= x^2 \\ 169 + 529 &= x^2 \\ 698 &= x^2 \\ \sqrt{698} &= \sqrt{x^2} \\ 26.4 &= x \end{aligned}$$



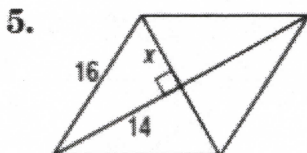
$$\begin{aligned} x^2 + 21^2 &= 34^2 \\ x^2 + 441 &= 1156 \\ x^2 &= 715 \\ \sqrt{x^2} &= \sqrt{715} \\ x &= 26.7 \end{aligned}$$



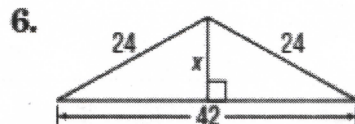
$$\begin{aligned} x^2 + 18^2 &= 26^2 \\ x^2 + 324 &= 676 \\ x^2 &= 352 \\ \sqrt{x^2} &= \sqrt{352} \\ x &= 18.8 \end{aligned}$$



$$\begin{aligned} 22^2 + 34^2 &= x^2 \\ 484 + 1156 &= x^2 \\ 1640 &= x^2 \\ \sqrt{1640} &= \sqrt{x^2} \\ 40.5 &= x \end{aligned}$$



$$\begin{aligned} x^2 + 14^2 &= 16^2 \\ x^2 + 196 &= 256 \\ x^2 &= 60 \\ \sqrt{x^2} &= \sqrt{60} \\ x &= 7.7 \end{aligned}$$



$$\begin{aligned} x^2 + 42^2 &= 24^2 \\ x^2 + 1764 &= 576 \\ x^2 &= -1188 \\ \text{No real solution} \end{aligned}$$

Decide whether the numbers can represent the side lengths of a triangle. If they can, classify the triangle as *acute*, *right*, or *obtuse*.

7.) 5, 7, 9

$$5^2 + 7^2 < 9^2$$

OBTUSE

8.) 10, 12, 30

$$10^2 + 12^2 < 30^2$$

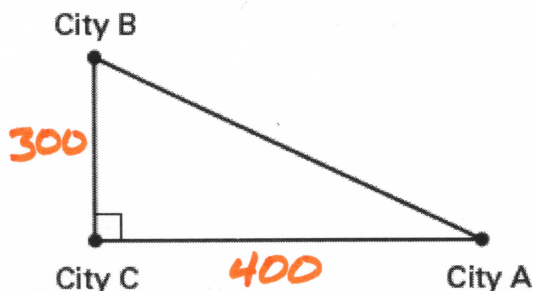
NOT A TRIANGLE!

9.) 18, 34, 45

$$18^2 + 34^2 < 45^2$$

OBTUSE

10.) Three cities form a right triangle on a map. The total distance from City A to City C to City B is 700 miles. The distance between the two closest cities is 300 miles. What is the distance from City A to City B?

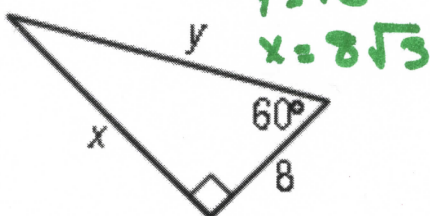


$$\begin{aligned} AC &= 700 - 300 = 400 \\ AB &= 500 \text{ miles} \end{aligned}$$

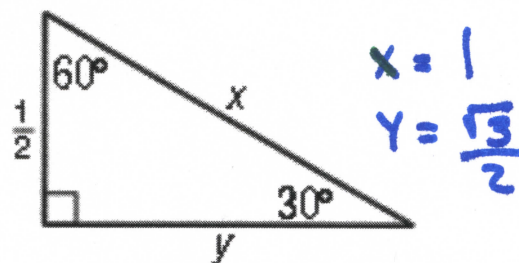
TARGET B - SPECIAL RIGHT TRIANGLES

For number 11-18, find the missing sides.

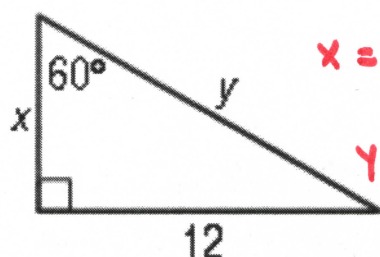
11.



12.

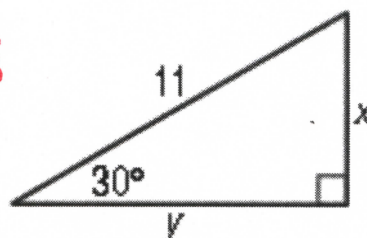


13.



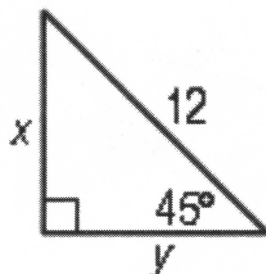
$x = \frac{12\sqrt{3}}{3} = 4\sqrt{3}$
 $y = \frac{12}{\frac{1}{2}} = 24$

14.



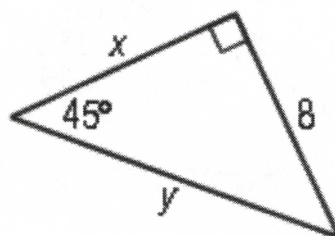
$x = \frac{11}{2}$
 $y = \frac{11\sqrt{3}}{2}$

15.



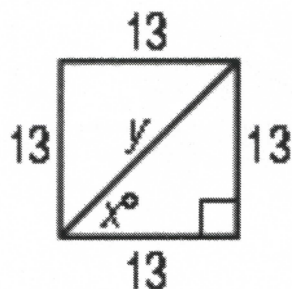
$x = \frac{12\sqrt{2}}{2} = 6\sqrt{2}$
 $y = 6\sqrt{2}$

16.



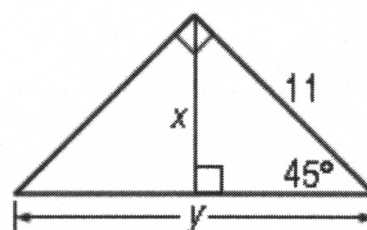
$x = 8$
 $y = 8\sqrt{2}$

17.



$x = 45^\circ$
 $y = 13\sqrt{2}$

18.



$x = \frac{11\sqrt{2}}{2}$
 $y = 11\sqrt{2}$

19. **Baseball** The baselines of a baseball field form a square. The distance from home plate to first base is 90 feet. Use the diagram at the right. Round decimal answers to the nearest inch.

- a. $90\sqrt{2}$
 ≈ 127.3 ft
What is the distance from home plate to second base?
b. 127.3 ft
What is the distance from third base to first base?
c. NO
 63.7 ft
The pitcher's mound is 60 feet 6 inches from home plate. Is it the midpoint of the diagonal from home plate to second base? If not, what is the midpoint?

